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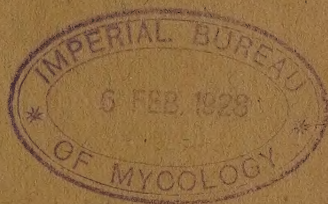
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INTERNATIONAL BULLETIN

OF

PLANT PROTECTION

DISCOVERIES AND CURRENT EVENTS IN WORLD PHYTOPATHOLOGY

Belgian Congo : A New Disease of the Oil Palm (*Elaeis guineensis*) (1).

Symptoms : complete disorganization of the collet and of the base of the stipe, followed by progressive necrosis, causing a very characteristic, lageniform hypertrophy of the trunk with the emission of adventitious, aerial roots at a certain height from the ground and above the injured parts.

Agent of infection : a white stromatic or filamentous mycelium of a species of Basidiomycetes whose fructifications have not been found. The tree attacked dies quickly.

The pathogeny of this parasite, observed for the first time in the Equatorial Province, is being studied.

Greece : Bacterial Diseases of Tobacco in connection with *Gnorimoschema heliopa* in Thessaly (2).

Despite this year's excessive drought, which has prevented the development of any kind of cryptogamic disease of tobacco in Thessaly, a slight fall of rain which occurred at the end of July has led to the loss of a quantity of late planted tobacco owing to the destructive action of several bacterial diseases.

Among these we must call attention to a disease which is attributed to *Bacillus aeruginosus* Delacr., which has been serious especially in the neighbourhood of Volo, to another caused by *Bac. maculicola* Delacr. and to "Wildfire" caused by *Bacterium tabacum* Wolf and A. C. Foster.

The last, although existing in Greece in an endemic state, only rarely causes serious damage, which is generally confined to young plants, owing to the frequent changes in temperature and the degree of humidity existing at that time.

(1) Communication from the official correspondent to the Institute, Mr. J. Ghesquière, at Stanleyville.

(2) Communication from the official correspondent to the Institute, Mr. D. S. CAVADAS, Director of the Phytopathological Station of Pelion at Volo.

All these Bacteria appear first on tobacco plants attacked by *Gnorimoschema heliopa* Low; afterwards they are found on plants not attacked by this moth; the parasite is probably transmitted to the latter by the labourers who pick the leaves.

Gnorimoschema heliopa, which has been observed this year for the first time in Thessaly on a fairly large scale, is attracting the attention of those affected by the damage caused. Its larva, which is very harmful, produces a swelling of the stalk in the form of a gall in the young plants and it also destroys the pith of the older plants which atrophy in consequence.

All precautions will be taken next year to prevent the spread of this moth which, apart from the immediate damage caused, may prove exceptionally dangerous by reason of its inoculation and propagation in the plants attacked of different parasites which subsequently may cause the death of those plants.

Kingdom of the Serbs, Croats and Slovenes: Some less known Insects causing Damage in Dalmatia (1).

Polyphylla lesinae Reitt. (?). — The larvae of a large species of *Melolonthinae* inflict serious damage on the vine in sandy soils of the island of Lesina and Lopud. They gnaw the part of the stock that is below the ground, so that the plant, especially if young, perishes altogether.

The adult has not yet been bred out, and hence it is impossible to be absolutely certain whether it is the species referred to or not.

Cebrio insularis Chvr. (?) — The larva of this Coleopteron corresponds as regards its characteristics to the description of *C. insularis*; but as the adult has not yet been bred out it cannot be stated categorically that it is the insect in question.

In any case the larvae inflict great damage at Lumbarda (island of Curzola) on plantations of water-melon (*Cucumis Citrullus*), gnawing the underground part of the stalk so that the plant withers and dries up. In one hollow where there were four or five plants of water-melon, 35 larvae were found.

It is also reported by the peasants that the larvae attack the small-headed cabbage.

Otiorrhynchus polycoccus Gyll. — This Coleopteron, which is unknown in Northern and Central Dalmatia, has been found at Gruda (Ragusa). The adult does immense damage by gnawing the buds and the young shoots of the vines. It appears early in spring, as soon as the buds begin to open. When the shoots have grown to about 10 centimetres in length, the insect disappears, and there is no longer any danger of damage to the vines.

The Coleopteron appears somewhat sporadically: one vineyard is completely invaded while in another close by there is no trace of the

(1) Communication from the official correspondent to the Institute, Mr. P. NOVAK, Chief of the Entomological Station, Split.

insect. Sometimes one part only of the vineyard is infested, while a corner may be entirely free from the pest.

The adult is nocturnal, and is caught at night by the peasants who make use of small lamps. Their method of protecting the vineyards from this pest is to wrap the spurs of the vine stocks in paper or linen bags, tying them firmly to the base. If the bag is not firmly tied, the insect penetrates and gnaws all the green part. Thirty-five individual specimens of *Otiorrhynchus* have been found in one badly tied bag.

Control experiments with arsenical salts will be made during the next spring.

Otiorrhynchus dalmatinus Gyll. — This insect inflicts serious damage on the olive, especially in the island of Curzola, eating the leaves and also the flowers in May. It hides under the leaves during the day and its mischievous work is done at night.

Cryptoblabes gnidiella Mill. — In Dalmatia *Conchylis ambiguella* has not so far been found and in all probability does not exist, as it is a northern insect: the vine worm is represented in Dalmatia by *Polychrosis botrana*. In the first and second generation the latter only appears, but along with the third there also appears on the nearly ripe grapes the caterpillar of *Crypt. gnidiella*.

It is probable that the first generation of this Microlepidopteron develops on some other plant, possibly a wild plant, and only passes to the grape vine in autumn.

VARIOUS QUESTIONS RELATING TO PLANT PROTECTION IN THE DIFFERENT COUNTRIES

Algeria : Flights of Locusts during the Month of October 1927 (1).

6 October. — Flights of Migratory locusts (*Acridium peregrinum* = *Schistocerca tatarica*).

29 October. — Flights of locusts, apparently of the above species, not in compact swarms but of frequent occurrence for some time past in the palm groves of Touat. Flights of very compact swarms are notified much more to the East outside the territory of the post. Important flights caused damage between 20 and 22 October in the Caidats Boufadi and Fenouguil. Further information has been requested from the posts concerned.

(1) Communication from the Governor General of Algeria to the President of the International Institute of Agriculture.

Fiji: Entomological Notes (1).

Cryptolaemus montrouzieri, Muls. — This ladybird was introduced into Fiji in 1924, and seems to have established itself, although only in small numbers, having recently been recovered in the field on two occasions.

Dacus passiflorae, Frog. — This fruit fly has this year been found attacking the bolls of certain varieties of cotton, viz.: Caravonica hybrid heavily, and Meade and Kidney lightly. It has also been found in Pawpaws, which is a hitherto unrecorded host plant.

Sierra Leone: Experiments on Ginger Scale (2).

The following are results of experiments with regard to the scale (*Aspidiotus hartii*, Ckll.) which attacks the rhizomes of ginger.

Samples of ginger have been seen where the whole surface of the rhizome was covered with scale insects. As may be realised, these must cause an appreciable loss, more especially as the insects feed and breed both in the field and in store.

Since ginger is sometimes supplied by the Government for planting in various parts of the country, it was important for it to be clean so as not to distribute the scale, and further to ascertain what effect such infestation had on the crop.

A particularly badly infested sample was used, which accounts for the low yield, so the results are purely comparative.

Some of this was fumigated with hydrocyanic acid gas for a period of 1 ½ hours, one ounce of potassium cyanide per hundred cubic feet being used.

Plots of 1/32nd acre were planted with each, treated and untreated, in June 1926, seven pounds of ginger being used in each case.

The plots were harvested on the 19th February, and the yields of fresh rhizome were 10 lbs 6 ozs for the treated and 3 lbs 9 ozs for the other, the latter being heavily infested with scale insects, the former free.

It may be stated therefore that the loss due to scale attack was 6 lbs 9 ozs, or practically 65 %.

These were stored separately and weighed again on the 27th June 1927, giving 1 lbs 2 ozs for the untreated and 4 lbs 12 ozs for the treated.

The former therefore had lost 2 lbs 7 ozs or 68 % and the latter 5 lbs 10 ozs or 54 %.

The difference between these, viz. 14 % represents the loss while in store due to scale insects.

The total percentage therefore is 79, in addition to which the resulting ginger, after being stored for a period of four months was of no commercial value.

(1) Communication from the official correspondent to the Institute, Mr. Hubert W. SIMMONDS, Government Entomologist, Department of Agriculture, Suva.

(2) Communication from the official correspondent to the Institute, Mr. E. HARGREAVES, A.R.C.S., F.E.S., Entomologist, Lands and Forests Department, Experimental Farm, Njala.

LEGISLATIVE AND ADMINISTRATIVE
MEASURES

Germany (Reich). — By Proclamation of the "Reichsminister für Ernährung und Landwirtschaft" and of the Minister of Finance, of 22 July, 1927, importations of all young plants not belonging to the genus *Vitis*, shrubs and other plants originating in nurseries, gardens or greenhouses, are legalized henceforth additionally through the customhouses at Cranenburg (Cleve) and at Neu Bentschen, while the custom-house at Stensch railway station is abandoned and will no longer function as a place for the entry of plants etc. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Oktober 1927, Nr. 11, S. 190).

** By Proclamation of the "Reichsminister für Ernährung und Landwirtschaft" and of the Minister of Finance, of 16 August, 1927, the importation of all young plants not belonging to the genus *Vitis*, shrubs and other plants originating in nurseries, gardens or greenhouses may take place also in future through the custom-house of Kohlscheid. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Oktober 1927, Nr. 11, S. 191).

Germany (Prussia). — A Police Order of the "Regierungspräsident" of Frankfort on Oder of 15 August, 1927 forbids the preserving, keeping and export of the Musquash (*Fiber zibethicus*). Provision is made only for exemptions for scientific purposes, in which case the living Musquash can only be exported or kept in iron cages or in metal bound chests. Owners, occupiers, users and tenants, owners of fishing and shooting rights, forest officials and public security organizations are ordered to inform the local police authorities directly a new appearance of the Musquash is noted. Non-compliance with the terms of this Police Order, which comes into force on the day of its issue, will be visited by fines not exceeding 150 RM or a corresponding term of imprisonment. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Oktober 1927, Nr. 11, S. 191).

Germany (Thuringen). — A Police Order of the Thuringian Ministry of the Interior and Economy (Economy Section) of 30 July, 1927 makes it obligatory for owners, users or tenants of land or for their lawful representatives to disinfect thoroughly those parts of apple trees which have been attacked by Woolly Aphis [*Eriosoma lanigerum*] and to destroy this insect. Moreover the above persons must remove dying and withered apple trees and such trees as have been so badly attacked by Woolly Aphis as to render further control measures seemingly useless, together with the top parts of their roots and destroy the Woolly Aphis colonies. Inspec-

tion of apple trees must be rendered possible to those charged with supervising the fulfilment of the order. In case of refusal to carry out the measures ordained by the order, the "Landräte" and "Stadtvorstände" of the district are instructed to proceed to investigations and measures of destruction at the cost of those whose duty it really is. Infringements will be punished by fines not exceeding 150 RM or by imprisonment not exceeding 6 weeks. The order, which came into force on 15 August, 1927, cancels as from that date all other orders on the same subject. (*Amliche Pflanzenschutzbestimmungen*, Berlin, 1. Oktober 1927, Nr. 11, S. 192).

Austria (Vienna). — In fulfilment of the provisions contained in Federal Law ("Kartoffelkrebsgesetz") of 28 July, 1926 (*B. G. Bl.* Nr. 215) relating to the control of wart disease, the Vienna Council in its capacity as Diet ("Landtag") has issued Law No. 33 of 28 July, 1927 for the control of wart disease, the provisions of which are essentially the same as those issued for the Burgenland (see No. 5 of this Bulletin). (*Landesgesetzblatt für Wien*, 3. September 1927, Jahrg. 1927, Stück 16, S. 39-42).

Canada. — By Decree of the Governor General in Council dated 11 August, 1927, No. 1526, Regulation No. 14 (foreign) established by Decree of 20 April, 1927, No. 717 (see this Bulletin No. 7) is cancelled and replaced as follows:—

"Regulation No. 14 (foreign) 2nd revision, prohibiting the importation into certain parts of Canada of fresh peaches, peach nursery stock, etc., coming from certain States of the American Republic.

(1) The importation into the Province of Ontario of fresh peaches and of peach nursery stock coming from one of the United States of America situated East of the Mississippi and of the Saint-Croix River is prohibited.

(2) The importation into the Province of British Columbia of fresh peaches and of peach nursery stock, as also of peach stones or seeds for propagation purposes coming from parts of the United States of America, mentioned in article 1, and, in addition from the States of Arkansas, Louisiana, Missouri and Texas is prohibited.

(3) All consignments of fresh peaches and of peach nursery stock intended for importation into Ontario and coming from parts of the United States of America other than those mentioned in article 1, as also all consignments of peach stones or seeds for propagation purposes, intended for importation into British Columbia, and coming from one of the United States of America West of the Mississippi and Saint-Croix River (except the States of Missouri, Arkansas, Louisiana and Texas) shall be accompanied by a declaration duly signed by the consignor, giving the name of the State of origin. All such consignments will be passed by the customs only on presentation of the necessary certificate and entry declaration.

(4) The present regulation does not prohibit the transport across the Province of Ontario of fresh peaches and of peach nursery stock, or peach stones, whatever their origin, which are crossing Ontario under a bill of

lading to a destination in Canada outside Ontario other than in the Province of British Columbia". (*The Canada Gazette*, Ottawa, 27 August, 1927, pp. 571-572).

United States of America (Florida). — "The Florida Plant Act of 1927" was duly approved on 19 May, 1927. Its aim is to prevent the introduction into and the dissemination within Florida of insect pests and diseases injurious to plants and plant products, to provide for the inspection and control of nurseries, to regulate the sale and distribution of plants and plant products, to create a State Plant Board and to prescribe its powers and duties, and to make an appropriation for the purpose of carrying on the provisions of the said Act.

The State Plant Board, herein after called the Board, shall be composed of 5 members who shall be the members constituting the Board of Control created and authorized by the provisions of Chapter 5384, Laws of Florida 1905, and shall enjoy all the authority and exercise all the duties of this latter. A majority of the members shall constitute a quorum. The chairman shall be elected annually by the members. A suitable office or offices shall be provided at the University of Florida for the meetings of the Board and for the deposit of records.

It shall be the duty of the Board to protect the agricultural and horticultural interests of the State from insect pests and diseases, and to that end it is vested with power and authority to :—

Inspect by means of duly authorized employees plants, plant products and other substances capable of disseminating or carrying insect pests and diseases.

To carry on investigations on methods of control, eradication and prevention of dissemination of insect pests and diseases.

To make rules and regulations to govern the sale and distribution of nursery stock.

To demand of any person, who has plants or plant products likely to carry pests and diseases in his possession, full information on the matter.

To declare a dangerous insect pest or disease to be a public nuisance.

To declare a quarantine against any area, place, nursery etc. in respect of dangerous insect pests or diseases and to prohibit the movement within the State or any part thereof or the introduction into the State of all plants, plant products or other matters coming from such quarantined areas, and to authorize under special rules and regulations certain conditions under which these prohibited articles may be moved into or within, sold or otherwise disposed of in the State.

To intercept and inspect in transit or on arrival all plants, plant products and other matters likely to carry insect pests and diseases injurious to plants already inside the State, and in case of infection being determined to return the goods to the sender, to destroy them or treat and release them in accordance with the Board's regulations.

To appoint such officials as are necessary, to prescribe their duties and fix their compensation.

To enter into co-operative arrangements with all persons and bodies capable of forwarding the end desired and to contribute a just proportionate share of expenses so incurred.

To publish at regular intervals, as may be thought expedient, an official organ of the Board for public distribution and to publish and distribute to the public any further information deemed necessary to enforce the provisions of the Act by writ of injunction as well as by criminal proceedings. It shall be the duty of State Attornies, County Solicitors and all Public Prosecutors in each county to represent the Board when called upon.

All the rules and regulations made by the Board shall be promulgated by being published in the official organ of the Board or by some other reasonable prescribed method of publication.

The introduction into the State of any live insect or specimen of any disease injurious to plants may only be made under special permit from the Board.

Any person receiving consignments in connection with which the Board's regulations have not been complied with must immediately inform the Board and hold the goods at the disposal of the Board.

Any person violating any provision of this Act or who shall have forged, counterfeited or destroyed or wrongfully used the Board's certificates or who shall have obstructed any employee of the Board in the performance of his duties shall be subject to a fine of not less than 250\$ and not more than 500\$, or to imprisonment for not more than 6 months or to both.

The sum of 35,000\$ a year is appropriated to the Board for the purposes of this Act.

The State Plant Board created by this Act is hereby created a corporate body possessing all the rights of such a body and having a special seal.

All Acts and parts of Acts inconsistent with this new Act are repealed, provided that the Plant Board as now existing under the Plant Act of 1915 shall continue to exist and function until the Plant Board provided for in this Act shall have been definitely established. All records, books and office equipment and other property belonging to the old Board shall be taken over by the new Board.

All the Provisions existing under the Plant Act of 1915 shall remain in force until their repeal by the new Plant Board. It is further provided that all employees of the old organization shall retain their positions under the same conditions until further rulings which may be made under the new Act.

This Act shall take effect upon its passage and approval by the Governor or upon its becoming a law without his approval. (*The Monthly Bulletin of the State Plant Board of Florida*, Gainesville, Florida, 1927, vol. XII, no. 1, pp. 1-7).

* * * The State Plant Board on 23 June, 1927 adopted Rule 51 which contains the following provisions: By reason of the serious situation created through the recent discovery of the presence in

certain areas in the State of Texas of the Mexican Fruit Fly or Morelos Orange Maggot (*Anastrepha ludens*, Loew.), and to prevent the introduction of this pest into the State of Florida, the importation of all host fruits of this pest including citrus, apple, plum, quince, peach, pear, mango, *Achras Sapota*, mamey, Anona and guava originating in or shipped from the Counties of Cameron, Hidalgo and Willacy or from such other areas as shall hereafter be found infested, is hereby prohibited. All such fruits arriving in the State of Florida in violation of this Rule shall be subject to immediate confiscation and destruction. (*The Monthly Bulletin of the State Plant Board of Florida*, Gainesville, Florida, 1927, vol. XII, no. 1, p. 11).

* * The State Plant Board at its meeting of 11 July, 1927 repealed its Rule No. 48 prohibiting the shipment into Florida of green beans, green peas, etc. from certain States known to be infested by the Mexican bean beetle [*Epilachna corrupta*] unless accompanied by a special permit.

Consequently, green beans and green peas may now be accepted for transportation into Florida without permit. (*The Monthly Bulletin of the State Plant Board of Florida*, Gainesville, Florida, 1927, vol. XII, no. 1, p. 11)

France. — Potatoes coming from countries infected with "Wart disease" (Germany, Belgium, Great Britain, Denmark, Finland, Ireland, Norway, Holland, Poland, Sweden, Switzerland, Czechoslovakia) may only be imported into French territory when accompanied by the phytopathological certificate (type annexe 1), prescribed by the Decree of 6 June, 1924, and potatoes coming from a country adjoining a country so infected (Austria, Spain, Hungary, Italy, Lithuania, Luxemburg, Rumania, Union of Socialist Soviet Republics) must be accompanied by the certificate (type annexe 2), prescribed by the above decree. (*Journal officiel de la République Française*, Paris, 24 septembre 1927, 59^e année, n° 222, p. 10026).

* * By Ministerial Decree of 15 September 1927, Belgium is now added to the list of countries infected by wart disease [*Synchytrium endobioticum*] given in art. 1 of the Ministerial Decree of 6 June, 1924 and modified by the Ministerial Decree of 20 December, 1924 and of 2 November, 1925. (*Journal officiel de la République Française*, Paris, 24 septembre 1927, 59^e année, n° 222, p. 10013).

* * By Ministerial Decree of 15 October, 1927 Spain is added to the list of countries not infected but adjacent to countries infected by wart disease [*Synchytrium endobioticum*] specified in Art. 2 of the Ministerial Decree of 6 June, 1924 modified by Art. 2 of the Ministerial Decrees of 20 December, 1924, 2 November, 1925 and 15 September, 1927. (*Journal officiel de la République Française*, Paris, 20 octobre 1927, 59^e année, n° 244, p. 10814).

* * By Decree of 30 September, 1927 the phytopathological Inspection Service set up at the Ministry of Agriculture and at present regulated by the Decree of 24 November, 1923 becomes entitled the "Service de défense des végétaux" (Plant Protection Service).

Its object is to ensure: (1) The sanitary supervision of plant production and the organization of defence against diseases and organisms harmful to plants and plant products; (2) The phytosanitary control of importations and exportations, the control of the farms from which the exported products come and the issue of phytosanitary certificates.

The Plant Protection Service carries out its functions by means of officers belonging to services not controlled by the "Direction" of Agriculture and by means of the Agricultural Offices; it works in collaboration with the Institute of Agronomic Research, and in particular with the Stations and Laboratories of Entomology, Phytopathology and Biology.

A Decree of the Minister of Agriculture determines, on the recommendation of the Director of Agriculture, and the advice of the Director of the Institute of Agronomic Research the boundaries of the phytosanitary "circonscriptions" with each of which an Agricultural Entomology Station and a Plant Pathology Station or similar establishments will collaborate, thus forming the scientific centre of the "circonscription".

The personnel of the Plant Protection Service is nominated by the Minister of Agriculture. It comprises: (1) A staff of permanent officers composed of 1 Inspector-Chief of Service; 8 inspectors; 1 secretary redactor; (2) A temporary personnel paid by the day and recruited as the service demands and within the limits of the amount allocated for the purpose in the Ministry of Agriculture's budget; this temporary staff comprises: (a) experts, preference being given to officers of the Ministries of Agriculture and of Education, whose duties are those of delegates or acting delegates of the "circonscription"; (b) controllers whose duty it is to assist the delegates and the acting delegates; (c) temporary assistants.

All plants or parts of plants intended for exportation which require a "certificat phytosanitaire" (phytosanitary certificate) must be accompanied by a "certificat de santé-origine" (certificate of original good health), which must be presented to the agents of the Plant Protection Service at the moment when the goods are submitted to their control.

The "certificat de santé-origine" and the "certificat phytosanitaire" can only be issued for products derived from crops regularly submitted to State phytosanitary control.

The officers empowered to issue the above certificates are appointed by Decree of the Minister of Agriculture.

Any grower wishing to submit his crops or products to the control of the "certificats de santé-origine" or of the "certificats phytosanitaires" must apply on special stamped forms under the conditions and in accordance with the model prescribed by the Decree of the Minister of Agriculture.

Inscription on the lists of phytosanitary control is valid for one year, from 1 January to 31 December.

The request for inscription must be sent to the Minister of Agriculture

(Plant Protection Service) between 1 November and 31 December (last possible date) each year.

Growers or exporters can on special request obtain a permanent inscription and so avoid the necessity for yearly renewal.

All expenses resulting from the control covered by the present Decree, and determined at the end of each financial year by a Decree of the Minister of agriculture, are covered by a tax of 50 francs — or of 100 francs in the case of permanent inscription — paid on each inscription to the State Phytosanitary Control and by a special supertax of 100 francs paid on inscriptions made after 31 December. The surplus expenses are divided among the exporting beneficiaries of the control, in proportion to the market value of the products controlled, for which the issue of certificates has been requested. (*Journal officiel de la République Française*, Paris, 7 octobre 1927, 59^e année, n^o 233, p. 10416-10417).

Italy. — According to the terms of the Ministerial Decree of 8 September, 1927 the duties assigned to the "R. Stazione di Patologia vegetale" of Rome by the Ministerial Decree of 15 July, 1927, with reference to the regulations for the importation of seed potatoes for the season 1927-28, are also assigned to the Laboratory of Plant Pathology of the "R. Istituto superiore agrario" of Milan and to the Laboratories of Plant Pathology and Agricultural Entomology of the "R. Istituto superiore agrario" of Portici. (*Gazzetta ufficiale del Regno d'Italia*, Roma, 13 ottobre 1927, anno 68^o, n. 237, p. 4070).

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[List of all the species described and observed in Algiers, Tunis and Morocco up to December 31, 1926. Are described as new the following species observed in Central and Western Sahara: 1) *Targionia deserti* on *Retama Retam*; 2) *Leucaspis lemmeti* on *Ephedra alata*; 3) *Aonidia tlatae* on *Tamarix articulata*. There is also the description of 2 new species living on Cistaceae in Algiers: 1) *Cerococcus cistarum* on *Fumana glutinosa* and *Cistus heterophyllus*; 2) *Eriococcus heteroacanthos* on *F. glutinosa*. All in all, the Coccids enumerated are one hundred and eleven].

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